

Translation of Dec 2014 article in Le Point magazine

http://www.lepoint.fr/politique/vallaud-belkacem-veut-rendre-les-maths-plus-attrayantes-04-12-2014-1886974_20.php

Vallaud-Belkacem wants to make mathematics more appealing

Renovated programs, use of games and computers, more mental arithmetic: Najat Vallaud-Belkacem wants to give students a taste for maths, in a country that paradoxically combines winning prizes, but also where too many students suffer from innumeracy. Her strategy for maths will rely on better training for teachers, and will work to renew the image of the subject, said the Minister of Education on Thursday during a visit to the Palais de la Découverte, in the presence of Cédric Villani, the winner of the Fields medal (the equivalent of the Nobel Prize for mathematics) and Nalini Anantharaman, Henri Poincaré prize winner.

"It is estimated that at 15 years old, 45% of students struggle with maths," she said during a moment disrupted by a gathering of dozens of students and teachers of Seine Saint-Denis challenging the removal of the ZEP (French equivalent of pupil premium schools) from their institutions. "When I was younger, I was not good at maths," said the Minister to the college students, "I understand that people disengage and may need to find new ways to learn maths so that they end up liking it."

Computer Users

According to her, mathematics is used in "plenty of other subjects": in geography with map scales, in sport with orientation courses, etc.. "Familiarity and understanding with numbers and calculations, especially mental arithmetic, will hold a central place" in the new maths programs, in place from September 2016, for the first year of each cycle (year 4, year 6, year 8), the ministry said. This is "to improve students' skills", and "to consolidate the concepts that they will need to act as citizens in a world saturated with figures."

The teaching will also be reinvented with the help of IT, will be based on "open issues" and will integrate the use of algorithms (solving a problem via a finite number of process steps). To make it more attractive, the "playful" aspect and the use of digital technology will be developed.

Bridge and algorithms

Maths will also be a domain where a "fight against gender stereotypes", with a "lionisation of famous women mathematicians" and pushing training, as well as the scientific and technical professions, directly to young women. A special national portal will be launched, a "reference tool" for teachers, students and parents. The minister also wants to increase the attractiveness of being a maths teacher, as positions remain vacant. She anticipates a new "Maths with IT" teaching qualification option as well as support from supply teachers to help prepare for the competitive entry exams.

"The steps taken are in the right direction, including a new way of framing problems that introduce an element of game play", praised Bernard Egger, president of the Association of Mathematics Teachers in public education. Some teachers already use bridge in class, "it allows an introduction to reasoning and probabilities," he says, "but using it in an educational way requires training".

The use of algorithms, "is how computers work; it's one of those elements vital for tomorrow's world, just as it was important in the nineteenth to master the use of steam," emphasises Christian Knight of SE-Unsa, the second education union, seeing an "interesting political signal" in this plan.

Roland Hubert, the co-secretary general of the Snes-FSU, the primary union for secondary school teachers, also considers it "rather positive" that this kind of "reflection" is taking place. "Afterwards, everything will be in the detail", some things already exist "the use of algorithms is taught in high school. As for starting earlier, why not?" No maths teacher will be against the play element inherent in games. According to Hubert, however, we must also commit to the ongoing training of teachers.

For Sylvie Bonnet, president of the Union of Teachers for science teachers in the elite "prepa" classes, school teachers "need better training in the teaching of mathematics from first principles" including "in-depth knowledge of the basic building blocks, as well as the mechanisms for teaching arithmetic to young children."